

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
23 June 2005 (23.06.2005)

PCT

(10) International Publication Number  
**WO 2005/056075 A3**

(51) International Patent Classification<sup>7</sup>: A61K 38/02,  
38/28, 38/39, C07K 2/00, 14/62, 14/78, A61N 1/00, 1/30

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW

(21) International Application Number:  
PCT/TL2004/001119

(22) International Filing Date:  
9 December 2004 (09.12.2004)

(25) Filing Language: English

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,  
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,  
GQ, GW, ML, MR, NE, SN, TD, TG).

(26) Publication Language: English

(30) Priority Data:  
159273 9 December 2003 (09.12.2003) IL

(71) Applicant (for all designated States except US):  
TRANSPHARMA MEDICAL LTD. [IL/IL]; 2 Yodfat Street,  
Northern Industrial Zone, 71291 Lod (IL).

Published:  
— with international search report  
— before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

(72) Inventors; and

(75) Inventors/Applicants (for US only): LEVIN, Galit  
[IL/IL]; 15 Haegoz Street, 42954 Nordiya (IL). SACKS,  
Hagit [IL/IL]; 13 Sderot Yitzhak Rabin, 71700 Modiin  
(IL).

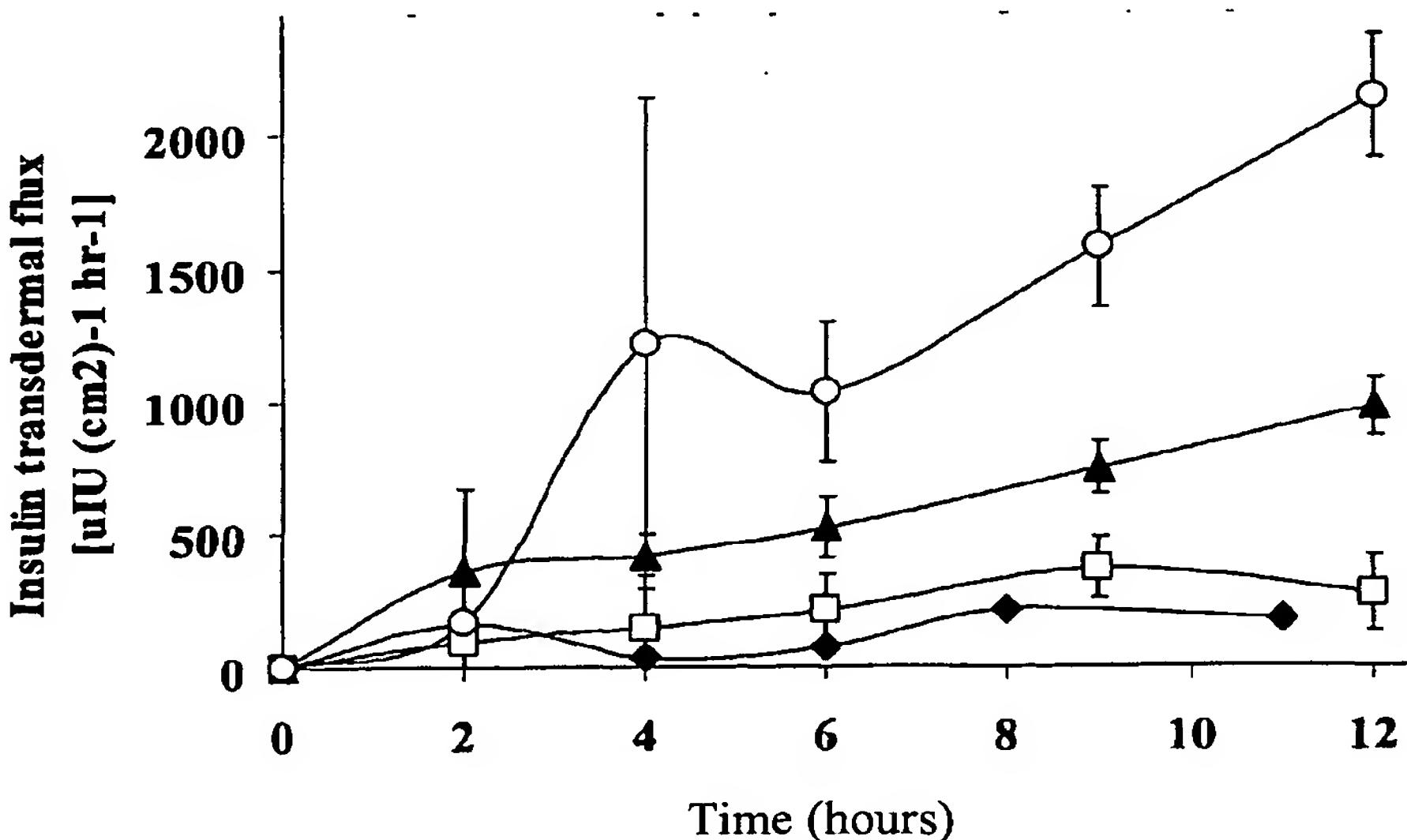
(74) Agent: WEBB, Cynthia; Webb & Associates, P.O. Box  
2189, 76121 Rehovot (IL).

(88) Date of publication of the international search report:  
2 February 2006

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: TRANSDERMAL SYSTEM FOR SUSTAINED DELIVERY OF POLYPEPTIDES



(57) Abstract: The present invention relates to a transdermal system for sustained delivery of high molecular weight hydrophilic drugs, especially peptide-, polypeptide- or protein-drugs and to methods of use thereof. The system comprises an apparatus that generates micro-channels in the skin of a subject in conjunction with a transdermal patch comprising at least one drug reservoir layer comprising a polymeric matrix and a therapeutic or immunogenic peptide, polypeptide or protein. The system provides sustained delivery of therapeutic or immunogenic agents, thereby achieving sustained therapeutic blood concentrations of these agents.

**WO 2005/056075 A3**